CASE REPORT

A perforated caecal volvulus in the foramen of Winslow

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SUMMARY

The aim of this report is to discuss with high-quality images, a case of a caecal volvulus herniating through the foramen of Winslow with signs of perforation.

BACKGROUND

A herniating caecal volvulus is a rare presentation to the emergency department, with variable signs and symptoms. Our case highlights the key radiological features not to be missed when reviewing CT images and prompt referral to the surgical team that will result in a successful patient outcome.

CASE PRESENTATION

A 62-year-old male with no medical history, presented to the emergency department with a 3-day history of ongoing epigastric pain, stabbing in nature radiating to the back.

The patient did not have any vomiting and bowels had been opening normally.

The patient was referred to the on-call surgical team. The patient was haemodynamically stable at the time of presentation. On examination the patient's abdomen was distended and tender with guarding in the epigastrium. Blood investigations revealed the following:

Haemoglobin 123, white cell count 15 and C reactive protein 300. Renal function, liver function tests and amylase were within normal limits.

INVESTIGATIONS

A CT scan of the abdomen and pelvis was organised (figure 1A, B and C). Findings of the CT abdomen/pelvis showed that the ascending colon and the caecum were not in the right paracolic gutter. A large gas-filled viscus, probably the caecum was seen in the epigastric region. Whirling of the mesenteric vessels adjacent to the hollow viscus due to torsion around its own mesentery was strongly suggestive of a caecal volvulus. The associated free air and free fluid within the abdomen suggested perforation of the caecum. ECG and chest X-ray were unremarkable.

DIFFERENTIAL DIAGNOSIS

- ▶ perforated duodenal ulcer
- ▶ gastritis

TREATMENT

The surgical team were informed and the patient went to theatre for emergency laparotomy that

revealed a near gangrenous caecum. This resulted in the surgical management being resection of the caecal volvulus and ileostomy formation, which was reversed at a later date.

OUTCOME AND FOLLOW-UP

On follow-up in the outpatient clinic, the patient has recovered well and symptom free.

From the patient's perspective, throughout his admission he was well informed and updated with his investigation results. This reduced his anxiety and reassured him and his family that he was being managed well.

DISCUSSION

Caecal volvulus is one of two types of colonic volvulus, the other being sigmoid. Literature regarding caecal volvulus is scarce, majority being in the form of case reports/case series. It is a surgical emergency and clinical and radiological features should not be missed.

The clinical presenting features are variable and can include distension, abdominal pain, constipation and vomiting.¹ The predisposition to caecal volvulus is multifactorial with risk factors including a hypermobile caecum, chronic constipation, excessive use of laxatives and high-fibre diet. There have also been cases reported of caecal volvulus following abdominal surgery.^{2,3}

Given that the pathology of caecal volvulus involves a hypermobile caecum that then twists with its mesentery, it is no surprise that in such cases the caecum can be missing from its normal anatomical position. There have been case reports describing caecal volvulus herniating through various structures and these include incisional hernia,⁴ diaphragmatic hernia,⁵ inguinal hernia⁶ and the foramen of Winslow.⁷⁻¹⁰ The clinical presentation varies, depending on the contents of the hernial sac and the degree of herniation.¹¹ While cases of caecal volvulus herniating through the foramen of Winslow have been described in a few case reports, the finding is rare and our case report raises further awareness of the condition. To the best of our knowledge, we describe the first case in which a herniating caecal volvulus through the foramen of Winslow perforated.

The imaging modality of choice is a CT abdomen and pelvis. There are key radiological features that should not be missed. This includes a large gas-filled viscus with or without with faeces, with whirling of surrounding mesenteric vessels. What is most

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Figure 1 (A) A large hollow viscus seen in the epigastric region above the stomach; (B) Whirling of mesenteric vessels (arrow) adjacent to the hollow viscus; (C) Free air, indicating perforation.

important to note, is that this finding can be found away from the normal anatomic position. This highlights the importance of radiologists to review the large bowel systematically to avoid misinterpreting CT imaging. The viscus commonly resembles the shape of a ‘coffee bean’.

Collapse of the distal colon is another common feature that has been described in a small study reviewing 11 cases.¹²

Caecal volvulus though uncommon, is a surgical emergency. Our case supports resection of the caecal volvulus and ileostomy formation as the patient recovered well postoperatively without major complication.

Learning points

- ▶ Perforation of a displaced caecal volvulus is a rare surgical emergency and should not be missed radiologically.
- ▶ Radiology trainees need to review CT scans systematically and to question the location of structures missing from the normal anatomical position.
- ▶ Regular communication with patients together with their family during an acute admission helps reduce patient anxiety and reassures them. This ultimately keeps the patient involved and provides information that is retained to give informed consent for surgery.

Contributors All authors listed in this case report have made a significant contribution. Details given below. JP has written the case summary and discussion. This involved reviewing case notes, writing a case summary and a literature search to write an up-to-date discussion. PT had gained patient consent for this case report, has selected appropriate images from CT scans and was involved in editing the final version.

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